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(12) United States Patent
Rogers(10) Patent No.: US 6,197,428 B1
(45) Date of Patent: Mar. 6, 2001(54) **CEMSTONES AND DECORATIVE OBJECTS
COMPRISING A SUBSTRATE AND AN
OPTICAL INTERFERENCE FILM**346666 7/1960 (CH).
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37 08 171 A1 9/1988 (DE).(75) Inventor: Donald Z. Rogers, Santa Rosa, CA
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* cited by examiner

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428/688; 428/689(58) Field of Search 501/86; 63/32;
428/688, 689, 542.2, 411.1, 446

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ABSTRACT

An article useful as a gemstone or decorative object. A formed substrate is used as a base for an optical interference coating applied on the exterior of the substrate. The optical interference coating is made of alternating layers of materials with relatively high refractive indices and relatively low refractive indices, the refractive indices and thicknesses of the alternating layers being chosen so that at least part of the light of wavelengths between 400 nanometers and 700 nanometers incident on the article is reflected. The optical coating creates an interference filter formed of alternating layers of a material with a low refractive index and a material with a high refractive index. The article provides a visual appearance that is novel and different from other gemstones or decorative objects, either man-made or natural.

12 Claims, 4 Drawing Sheets

